AMENDMENT

IN THE SPECIFICATION

Please amend paragraph 16 as follows:

Figures 1 and 2 illustrates a prior art force transmission device 5 mounted within a chamber 9 of a housing 7 of a disc brake caliper. The housing 7 is adapted to mount a conventional air or other power actuator (not shown) on an external face of the housing 7. An actuating lever (not shown) may perform an angular reciprocal swinging movement under the action of a thrust member of the power actuator. The lever can be integral or attached to a rotary actuating member 13 rotatably supported within the caliper. The rotary actuating member 13 is recessed to house respective cylindrical rollers 15[[,]] and 16 having axes offset from the rotary axis of the rotary actuating member 13 [[~~TO~~]] to form an eccentric, actuating arrangement. The cylindrical rollers 15[[,]] and 16 bear against respective ~~thrust~~tappet assemblies 17[[,]] and 18 (shown as adjustable tappet assemblies) of the force transmission device 5.

Please amend paragraph 17 as follows:

Rotation of the lever and the rotary actuation member 13 causes the tappet assemblies 17[[,]] and 18 to apply an actuating thrust to a directly actuated friction element 2 and, by reaction via the caliper, to an indirectly actuated friction element (not shown). The friction elements 2 are mounted to face respective sides of a brake disc or rotor 4. The friction elements 2 are received within openings in a brake carrier 3 and fixed to a non-rotatable portion of a vehicle (e.g., the suspension) to which the brake is mounted. The friction elements 2 are restrained from circumferential and radial inward movement. Radial outward movement is restricted by pad springs 30 and a pad strap 32 held in place by fastener 34.

Please amend paragraph 18 as follows:

An adjuster assembly 19 may be of any appropriate conventional type and needs no detailed description. The adjuster responds to excessive movement of the friction element 2 (e.g., due to wear of the friction material 40) and produces resultant rotation of an adjuster shaft 21 via a gear 52, which in turn rotates a pair of adjuster shafts 22[[,]] and 23 of the restrictive adjustable tappet assemblies 17, 18.

Please amend paragraph 19 as follows:

The tappet assemblies 17[[,]] and 18 are of identical construction and operation, and therefore only the tappet assembly 17 will be described herein. The tappet assembly 17 includes a tappet housing 24 including a trilobular bore 24A. A tappet head 26 is mounted to a closed end portion of a tappet shaft 25 having a trilobular external surface received in and axially guided by the bore 24A. The tappet shaft 25 further includes a threaded internal bore arranged to receive the adjuster shaft 22 having a corresponding external thread. The tappet assemblies 17[[,]] and 18 are disposed with tappet heads 26 adjacent to the friction element 2.

Please amend paragraph 20 as follows:

When the brake actuator applies a force from the right as shown in Figure 1, the entire tappet assembly 17 slides along the bore 24A to transmit the braking force to the friction element 2 via the tappet head 26. Because the friction element 2 is able to move radially outwardly and circumferentially, there may be some relative movement between the tappet head 26 and the friction element 2 in operation. To adjust the length of the tappet, the adjuster shaft 22 rotates to cause relative axial movement between the adjuster shaft 22 and the tappet shaft 25 by the mating threads. The trilobular configuration of the outer surface of the tappet shaft 25 within the bore 24A prevents rotation of the tappet shaft 25 relative to the housing 7, ensuring that rotation of the adjuster shaft 22 results in actual lengthening of the tappet assembly 17. A seal 29 between the tappet head 26 and tappet housing 24 prevents particles of dirt and debris from entering into the sliding interface between the triblobular outer surface of the tappet shaft 25 and bore 24A.

Please amend paragraph 21 as follows:

Figures 3 and 4 illustrate the force transmission device 105 of the present invention fitted within the chamber 9 of the housing 7 of a disc brake of the type disclosed above. The remaining parts of the disc brake identical with the prior art are designated by the same reference numerals and operate in the same way. The rotary actuating member 13 applies an actuating thrust via the tappet assemblies 117[[,]] and 118 to a directly actuated friction element 102. The tappet assemblies 117[[,]] and 118 are adjusted by an adjuster ~~mechanism~~assembly 19.

Please amend paragraph 22 as follows:

The tappet housing 124 of the present invention does not include a trilobular bore arranged to receive and guide a tappet shaft along its axial length, and the prior art guidance for the tappet assemblies 117 and 118 is not needed. Instead, the end 150 of each tappet assembly 117[[,]] and 118 near the rotary actuating member 13 is guided by the interface of the gear ring 152 of the adjuster shaft 122 with the tappet housing 124. Therefore, no contact between the tappet housing 124 and the tappet shaft is necessary. The opposite end of each tappet assembly 117[[,]] and 118 is guided by a formation on the brake pad backplate 138 of the friction element 102.

Please amend paragraph 23 as follows:

As shown in Figures 4 and 5, the brake pad backplate 138 is generally planar and has a friction material surface 162 on one side and a loading surface 164 on an opposite side. The loading surface 164 includes two identical local load spreading features in the form of raised bosses 166[[,]] and 168. Only boss 166 will be described, although it is to be understood that boss 168 is identical. The top of the boss 166 (as shown in Figure 5) has a diameter d' which is smaller than the diameter D of the lower portion of the boss 166. Therefore, the boss 166 can act as a load spreading feature.

Please amend paragraph 24 as follows:

The boss 166 is circular and has a raised abutment and an edge 170 tapering towards the loading face 164. The raised abutment 172 is annular and has a diameter d' slightly larger than the diameter d of the tappet end 174 of the tappet shafts 125 and defines a surface 166A having a recessed square locating feature 173 at its center.

Please amend paragraph 25 as follows:

The tappet ends 174 have a substantially uniform circular cross section with a diameter d and a square end projection 175 dimensioned to fit within the recessed square locating feature 173. The tappet end 174 of the tappet shaft 125 includes an annular groove 174B. A resilient member, such as a wavy spring 176, is positioned in the annular groove 174B. The tappet shaft 125 and the wavy spring 176 are then inserted into the recessed square locating features 173 formed by the surface 166A and the raised abutment 172 such that the square end projection 175 fits within the recessed square locating feature 173. The assembly process can be achieved either by moving the brake pad toward the tappet shaft 125 or by moving the tappet shaft 125 toward the brake pad, as further described below.

Please amend paragraph 27 as follows:

The force transmission device of the present invention provides an alternative method of assembling the ~~friction element~~brake pad backplates 138, either during initial assembly or during reassembly following servicing. To assemble the ~~friction element~~brake pad backplate 138 in the outer position of the caliper, i.e., remote from the force transmission device, the friction element 102 has to be inserted in a radial direction and then subsequently moved in an axial direction, away from the brake disc or rotor 4, to engage the features of the brake pad backplate 138 with the features on the inner face of the bridge.

Please amend paragraph 28 as follows:

The wavy spring 176 is interference fitted in the recess formed by the surface 166A and ensures that the tappet end 174 of the tappet shaft 125 remains in contact with the surface 166A when the vehicle is in use. The wavy spring 176 also allows a limited amount of radial movement of the brake pad relative to the tappet shaft 125 (provided some clearance is provided between the square location feature 173 and the square end projection 175). The resilient nature of the wavy spring 176 can damp the transmission of vibrations induced in the friction element 102.

Please amend paragraph 29 as follows:

The wavy spring 176 is similar to proprietary components known as "tolerance rings." It is possible to design the piston and the brake pad backplate 138 to utilize "off the shelf" tolerance rings, rather than having a specific unique wavy spring 176. The wavy spring 176 is received in the annular groove 174B of the tappet shaft 125. However, in other embodiments, the annular groove 174B could be provided on the raised abutment 172. Since the tappet end 174 of the tappet shaft 125 is radially and circumferentially restrained by engagement with the brake pad backplate 138, the guidance provided by the bore 24A of prior art is no longer needed.

Please amend paragraph 30 as follows:

The brake pad backplate 138 is generally arcuate and has circumferential ends 178[[,]] and 180 that may be locally thicker (T) than the thickness (t) of the main portion of the brake pad backplate 138. The local thickening (T) ensures adequate engagement of the circumferential end 178[[,]] and 180 with the associated brake carrier 3, even at the extremes of friction element 102 and disc wear. Similar local thickening (not shown) can be provided on a radially inner edge 182 of the brake pad backplate 138 where it abuts the associated brake carrier 3.

Please amend paragraph 31 as follows:

When the brake pad backplate 138 is assembled in an inner position, i.e., in the position shown in Figure 3, it is first moved in a radially inward direction and then in an axial direction away from the brake disc so that the location features of the brake pad backplate 138 engage with the tappet shaft 125.

Please amend paragraph 32 as follows:

An alternative method of assembling the brake pad backplate 138 into a caliper is to first move the brake pad backplates 138 in a radial direction such that the friction material 140 is near the brake disc surface and then to apply the brake so that the tappet shafts 125 and the inner face of the bridge approach and engage with the location features on the brake pad backplate 138 to prevent escape of the pads during subsequent normal use of the vehicle.

Please amend paragraph 33 as follows:

Figures 7 to 9 illustrate an alternative tappet shaft 225 having an end 274 and grooves 274B. The brake pad backplate 238 includes cordially orientated holes 284. The tappet shaft 225 is inserted into a recess 273, and a spring clip 286 is then inserted through the holes 284 in the direction of arrows A such that the regions 287 are received within the grooves 274B, retaining the piston to the brake pad. The grooves 274B preferably do not extend around the entire circumference of the tappet shaft 225 so that relative rotation of the tappet shaft 225 and the brake pad backplate 238 is prevented when the clip 286 is inserted.

Please amend paragraph 34 as follows:

Although the raised abutments 172 and the tappet ends 174 have been disclosed as circular, it is to be understood that non-circular formations can be employed. These formations would be a substitute for the square end projections 175 and the grooves 274B in enabling the wear adjustment ~~mechanism~~assembly 19 to function properly. Any other suitable form of engagement that prevents relative rotation between the brake pad backplate 138 and the tappet shaft 125 may also be employed.

Please amend paragraph 35 as follows:

It is possible to rely solely on the interface between the tappet shafts 125 and the brake pad backplate 138 to ensure that the tappet assemblies 117[[,]] and 118 extend in response to wear of the friction material 140. However, it is also possible that the tappet shafts 125 may rotate once the brake pad backplate 138 is removed from the ends of the tappet shafts 125 and go out of mutual synchronism during pad replacement, potentially leading to difficulties in fitting a replacement pad and in achieving even wear of the friction material 102 during use of the disc brake. To prevent this, a further anti-rotation feature, such as teeth 190, may be provided near the rotary actuating member 13 at the end of the tappet shaft 125 to engage a complementary formation (not shown) on the tappet housing 124 when the tappet shaft 125 is in the retracted position with respect to the adjuster shaft 122, as illustrated in Figure 3. Because the brake pad can only be replaced once the adjustment mechanism has been retracted, the teeth 190 are need to operate only in this position.

Please amend paragraph 36 as follows:

The force transmission device of the present invention also includes a secondary seal 192 extending between the housing 124 and the end of the tappet shaft 125 near the rotary actuating member 13. The secondary seal 192 prevents the ingress of certain debris into the force transmission device if the primary seal 129 fails.